



CDFW Fisheries Biologist John Hanson released Paiute cutthroat trout into Silver King Creek.

USDA Forest Service Photo By Rachel Van Horne

## PAIUTE CUTTHROAT TROUT

# RECOVERY EFFORT CONTINUES

Despite the Slink Fire

The Paiute cutthroat trout made national headlines last year when the Humboldt-Toiyabe National Forest, California Department of Fish and Wildlife (CDFW), U.S. Fish and Wildlife Service and other partners returned this California native fish to its home waters in Alpine County for the first time in more than 100 years. The Paiute cutthroat trout was one of the first species in the nation listed under the federal Endangered Species Act in the 1960s.

Recovery efforts continued this October when fisheries biologists relocated 44 Paiute cutthroat trout by pack animals from the nearby Corral Valley Creek into Silver King Creek, the fish's historic home. Both creeks are in the Carson-Iceberg Wilderness on the Humboldt-Toiyabe National Forest.

"In 2019, the first translocation effort was completed when 30 Paiute cutthroat trout were moved from Coyote Valley Creek to Silver King Creek," said Rachel Van Horne, Humboldt-Toiyabe National Forest Fisheries Biologist. "It was a momentous occasion, but the translocation efforts into the mainstem of Silver King Creek will need to continue yearly until a self-sustaining population has been established."







A genetically pure population of Paiute cutthroat trout was established in Corral Valley Creek and other suitable waters decades ago to ensure survival of the species while restoration work took place within Silver King Creek to remove introduced nonnative trout that displaced and hybridized with the native Paiute cutthroat trout.



*USDA Forest Service Photo By Rachel Van Horne*

Newly released Paiute cutthroat trout swimming in Silver King Creek, the fish's historic home.

The Slink Fire, which occurred in September 2020, added urgency to the effort. The 26,759-acre fire burned about half of the Corral Valley Creek watershed, potentially threatening the pure Paiute cutthroat trout population. "I would like to recognize the great job the three Incident Management Teams, Sierra Front Team #3, Great Basin Team #6, and Nevada Team #3, did to protect the Paiute cutthroat trout habitat during the Slink Fire," said Bill Dunkelberger, Humboldt-Toiyabe National Forest Supervisor.

"Without everyone's hard work, the Paiute cutthroat trout population in Corral Valley Creek may have been decimated and this would have been a huge loss for the recovery effort," added Dunkelberger.

According to Chad Mellison, U.S. Fish and Wildlife Service Fisheries Biologist and Slink Fire Wildland Fire Resource Advisor (READ), the issue with wildfires is that their severity can influence fish populations and their habitat. As vegetation burns, increased sediment erodes into nearby bodies of water.



"This material fills in spaces where fish would lay eggs and can, in some cases, damage their gills. Migration routes can also be blocked or altered," explained Mellison. As a READ, Mellison provides guidance to Agency Administrators and Incident Management Teams to help them develop suppression strategies that best avoid, minimize, or mitigate impacts to critical natural resources.

Another significant issue is temperature change. Fish which have precise habitat requirements, like the Paiute cutthroat trout, are most at risk. When plants which shade cold-water streams are destroyed, the overall water temperature rises. Even just a few degrees change can have an impact on metabolic and reproductive rates of the fish living there.

Once the area was deemed safe, Van Horne, who was also a member of the the Slink Fire Burned Area Emergency Response (BAER) Team, went out to Corral Valley to see the effects of the Fire. The BAER Team is made up of scientists and specialists with expertise in soils, hydrology, natural and cultural resources, engineering, and recreation. They conduct assessments of the burned area to determine treatments needed to minimize threats to human life and mitigate unacceptable degradation to natural and cultural resources in an area burned by a fire.



Photo One: JC High Country Outfitter Joe Cereghino rides down the Driveway Trail through the Slink Fire burn area from Corral Valley Creek to Silver King Creek. *USDA Forest Service Photo By Rachel Van Horne*

Photo Two: CDFW biologists performed population assessments of the Paiute cutthroat trout in the Corral Valley Creek the week before the lightning-caused Slink Fire ignited. These surveys help the biologists determine how many fish can be removed without affecting the population in the donor stream. *Photo Provided by CDFW*

Photo Three: All the Paiute cutthroat trout that were collected in Corral Valley Creek were measured, weighed, and genetic samples were taken. After the fish were examined they were placed in fish cans that were placed on mules for transportation to Silver King Creek. *Photo Provided by USFWS*

Photo Four: Rachel Van Horne, Humboldt-Toiyabe National Forest Fisheries Biologist Rachel Van Horne photographs CDFW Fish Biologist John Hanson releasing a bucket of Paiute cutthroat trout into Silver King Creek. *CDFW Photo by Leslie Alber*





"I was nicely surprised with the mosaic burn, which includes patches of burned and unburned areas, that occurred in the Corral Valley," said Van Horne.

Van Horne explained that this type of burning is known to support biodiversity outcomes, but until the area recovers, the Corral Valley Creek will need to be continuously monitored to ensure the Paiute cutthroat trout habitat is not negatively affected by the fire. Since this portion of the fire was within wilderness and because of the overall positive effects of the fire to the landscape, there were no on-the-ground landscape treatments recommended for Corral Valley.

To ensure that the population of Paiute cutthroat trout in Corral Valley is protected until recovery occurs, the Humboldt-Toiyabe National Forest worked with partners to come up with the best plan moving forward. CDFW decided to concentrate their relocation efforts from Corral Valley Creek to Silver King Creek in the event that post-fire sediment impacts occurred.

"Recovering this iconic trout has been a top priority for CDFW for many years. Continuing to move fish into their historic range is critical for long-term success of the project and for genetics management," said CDWF Fisheries Biologist Sarah Mussulman. "I'm very pleased that despite many additional challenges due to COVID and wildfires, we were able to successfully move another 44 fish this year, this is worth celebrating!"

The translocation from Corral Valley Creek also served a dual purpose of continuing to build the population in the mainstem of Silver King Creek, while protecting the genetics of the fish in Corral Valley Creek should



Aerial photo of the upper part of Corral Valley after the Slink Fire burned through.

Photo Provided by USDA Forest Service

post-fire effects impact the population as the area moves into the winter.

Genetic samples were taken from all fish that were moved from Corral Valley Creek, so biologists will be able to track their reproductive success in the mainstem of Silver King Creek as a self-sustaining population is established. "When we walked up to the Silver King Creek to release the fish from Corral Valley Creek, there was one of the fish we released last year swimming in the

pool!" added Van Horne. "Seeing that fish thriving in its historic range is what this project is all about!"

Each year that Paiute are moved into Silver King Creek is one step closer to a self-sustaining population. Hopefully next year when we walk to the stream's edge, we will see baby fish!" said Van Horne. "Natural reproduction within the Silver King Creek would be momentous milestone for this recovery effort, so stay tuned."